

Table 4. Energy Consumption by Sector and Source
(quadrillion Btu, unless otherwise noted)

West North Central

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Energy Consumption															
Residential															
Distillate Fuel	0.022	0.023	0.023	0.022	0.021	0.021	0.021	0.021	0.021	0.021	0.020	0.020	0.020	0.020	0.020
Kerosene	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Liquefied Petroleum Gas	0.105	0.108	0.104	0.104	0.103	0.104	0.105	0.105	0.106	0.107	0.107	0.107	0.108	0.108	0.108
Petroleum Subtotal	0.128	0.132	0.129	0.128	0.126	0.127	0.127	0.128	0.129	0.129	0.129	0.129	0.130	0.130	0.130
Natural Gas	0.479	0.458	0.456	0.470	0.469	0.474	0.476	0.479	0.481	0.485	0.484	0.485	0.488	0.491	0.491
Coal	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001
Renewable Energy 1/	0.023	0.024	0.024	0.027	0.027	0.027	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026
Electricity	0.320	0.320	0.340	0.343	0.348	0.355	0.360	0.366	0.371	0.377	0.382	0.387	0.393	0.399	0.402
Delivered Energy	0.952	0.935	0.951	0.970	0.972	0.984	0.991	1.000	1.008	1.019	1.023	1.029	1.038	1.048	1.051
Electricity Related Losses	0.825	0.819	0.862	0.870	0.890	0.904	0.911	0.915	0.910	0.915	0.914	0.913	0.915	0.914	0.906
Total	1.778	1.755	1.813	1.840	1.861	1.888	1.903	1.915	1.919	1.934	1.936	1.942	1.953	1.962	1.957
Commercial															
Distillate Fuel	0.028	0.029	0.030	0.028	0.028	0.028	0.029	0.029	0.029	0.029	0.029	0.030	0.030	0.030	0.030
Residual Fuel	0.004	0.004	0.004	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Kerosene	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Liquefied Petroleum Gas	0.016	0.015	0.015	0.014	0.015	0.016	0.015	0.015	0.015	0.015	0.016	0.016	0.016	0.015	0.016
Motor Gasoline 2/	0.009	0.009	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.009	0.009	0.009	0.009	0.009
Petroleum Subtotal	0.056	0.057	0.057	0.053	0.054	0.055	0.055	0.056	0.056	0.056	0.057	0.057	0.057	0.057	0.057
Natural Gas	0.312	0.287	0.284	0.283	0.284	0.288	0.292	0.297	0.302	0.307	0.311	0.315	0.321	0.326	0.330
Coal	0.012	0.012	0.013	0.013	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012
Renewable Energy 3/	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
Electricity	0.296	0.301	0.320	0.322	0.331	0.340	0.347	0.353	0.360	0.368	0.376	0.382	0.389	0.396	0.404
Delivered Energy	0.680	0.662	0.677	0.676	0.685	0.700	0.712	0.723	0.735	0.749	0.760	0.771	0.784	0.796	0.808
Electricity Related Losses	0.763	0.770	0.809	0.818	0.846	0.865	0.878	0.884	0.885	0.893	0.899	0.902	0.907	0.909	0.909
Total	1.443	1.431	1.486	1.493	1.532	1.565	1.590	1.608	1.621	1.642	1.659	1.673	1.691	1.705	1.717
Industrial 4/															
Distillate Fuel	0.159	0.163	0.170	0.167	0.165	0.164	0.162	0.162	0.161	0.159	0.158	0.158	0.157	0.157	0.156
Liquefied Petroleum Gas	0.115	0.117	0.115	0.116	0.116	0.116	0.115	0.114	0.114	0.114	0.114	0.113	0.113	0.112	0.112
Petrochemical Feedstocks	0.026	0.028	0.027	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.027	0.027	0.027	0.027
Residual Fuel	0.008	0.008	0.008	0.006	0.008	0.010	0.008	0.010	0.010	0.010	0.010	0.009	0.010	0.010	0.010
Motor Gasoline 2/	0.041	0.042	0.042	0.042	0.041	0.041	0.041	0.041	0.041	0.041	0.040	0.040	0.040	0.040	0.040
Other Petroleum 5/	0.242	0.249	0.247	0.247	0.262	0.263	0.263	0.263	0.265	0.265	0.264	0.266	0.265	0.269	0.266
Petroleum Subtotal	0.592	0.607	0.608	0.604	0.620	0.621	0.617	0.619	0.618	0.616	0.614	0.613	0.612	0.614	0.611
Natural Gas	0.411	0.434	0.411	0.426	0.458	0.480	0.508	0.530	0.552	0.575	0.584	0.585	0.587	0.585	0.589
Lease and Plant Fuel 6/	0.032	0.031	0.038	0.039	0.040	0.041	0.041	0.042	0.042	0.042	0.043	0.044	0.043	0.042	0.044
Natural Gas Subtotal	0.443	0.465	0.449	0.465	0.498	0.520	0.549	0.572	0.594	0.618	0.627	0.629	0.630	0.628	0.633
Metallurgical Coal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Other Industrial Coal	0.234	0.233	0.245	0.251	0.258	0.258	0.258	0.258	0.257	0.257	0.257	0.257	0.257	0.256	0.256
Coal-to-Liquids Heat and Power	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.021	0.041	0.062	0.072	0.081	0.091	0.109
Net Coal Coke Imports	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Coal Subtotal	0.234	0.233	0.245	0.251	0.258	0.258	0.258	0.258	0.278	0.299	0.319	0.328	0.338	0.347	0.365
Renewable Energy 7/	0.077	0.081	0.080	0.082	0.083	0.084	0.085	0.086	0.087	0.087	0.088	0.089	0.089	0.090	0.091
Electricity	0.269	0.272	0.273	0.276	0.282	0.286	0.289	0.294	0.298	0.302	0.303	0.304	0.305	0.306	0.308
Delivered Energy	1.615	1.658	1.655	1.678	1.741	1.769	1.798	1.828	1.875	1.922	1.951	1.963	1.974	1.986	2.007
Electricity Related Losses	0.692	0.695	0.691	0.700	0.722	0.728	0.732	0.735	0.732	0.732	0.725	0.718	0.712	0.703	0.693
Total	2.307	2.353	2.346	2.378	2.463	2.498	2.530	2.563	2.607	2.653	2.677	2.681	2.686	2.688	2.701

Table 4. Energy Consumption by Sector and Source
(quadrillion Btu, unless otherwise noted)

West North Central	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Transportation															
Distillate Fuel 8/	0.489	0.510	0.517	0.530	0.543	0.554	0.565	0.577	0.588	0.598	0.606	0.613	0.620	0.627	0.635
Jet Fuel 9/	0.135	0.139	0.139	0.142	0.146	0.149	0.153	0.157	0.162	0.164	0.166	0.168	0.169	0.171	0.173
Motor Gasoline 2/	1.253	1.277	1.281	1.284	1.311	1.332	1.351	1.369	1.384	1.398	1.409	1.422	1.434	1.445	1.456
Residual Fuel	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Liquefied Petroleum Gas	0.002	0.003	0.003	0.004	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006	0.006
Other Petroleum 10/	0.012	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013
Petroleum Subtotal	1.892	1.942	1.954	1.973	2.019	2.053	2.088	2.122	2.153	2.179	2.200	2.222	2.243	2.263	2.285
Pipeline Fuel Natural Gas	0.095	0.095	0.109	0.105	0.100	0.096	0.093	0.089	0.088	0.087	0.086	0.085	0.087	0.088	0.087
Compressed Natural Gas	0.001	0.002	0.002	0.003	0.003	0.004	0.004	0.005	0.005	0.005	0.006	0.006	0.007	0.007	0.007
Renewable Energy (E85) 11/	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Liquid Hydrogen	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Electricity	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006
Delivered Energy	1.994	2.045	2.072	2.086	2.128	2.159	2.191	2.221	2.252	2.277	2.299	2.319	2.343	2.363	2.386
Electricity Related Losses	0.015	0.015	0.014	0.014	0.015	0.015	0.015	0.015	0.015	0.014	0.014	0.014	0.014	0.014	0.014
Total	2.009	2.059	2.086	2.101	2.143	2.174	2.205	2.236	2.267	2.292	2.313	2.333	2.357	2.377	2.400
Delivered Energy Consumption, All Sectors															
Distillate Fuel	0.697	0.725	0.739	0.746	0.757	0.767	0.778	0.789	0.799	0.807	0.814	0.820	0.826	0.834	0.841
Kerosene	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Jet Fuel 9/	0.135	0.139	0.139	0.142	0.146	0.149	0.153	0.157	0.162	0.164	0.166	0.168	0.169	0.171	0.173
Liquefied Petroleum Gas	0.238	0.243	0.238	0.238	0.239	0.239	0.239	0.240	0.241	0.242	0.241	0.241	0.242	0.241	0.242
Motor Gasoline 2/	1.303	1.327	1.330	1.333	1.361	1.382	1.401	1.419	1.434	1.447	1.458	1.470	1.483	1.493	1.505
Petrochemical Feedstocks	0.026	0.028	0.027	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.027	0.027	0.027	0.027
Residual Fuel	0.013	0.013	0.013	0.009	0.011	0.013	0.011	0.014	0.014	0.014	0.014	0.014	0.014	0.013	0.014
Other Petroleum 12/	0.254	0.261	0.259	0.259	0.274	0.275	0.275	0.275	0.277	0.277	0.276	0.278	0.277	0.281	0.279
Petroleum Subtotal	2.668	2.738	2.748	2.758	2.819	2.856	2.887	2.924	2.956	2.980	3.000	3.021	3.041	3.064	3.083
Natural Gas	1.204	1.181	1.153	1.182	1.215	1.245	1.280	1.311	1.341	1.373	1.385	1.392	1.402	1.410	1.418
Lease and Plant Fuel 6/	0.032	0.031	0.038	0.039	0.040	0.041	0.041	0.042	0.042	0.042	0.043	0.044	0.043	0.042	0.044
Pipeline Natural Gas	0.095	0.095	0.109	0.105	0.100	0.096	0.093	0.089	0.088	0.087	0.086	0.085	0.087	0.088	0.087
Natural Gas Subtotal	1.331	1.307	1.301	1.326	1.355	1.382	1.414	1.441	1.470	1.502	1.514	1.521	1.532	1.540	1.549
Metallurgical Coal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Other Coal	0.248	0.247	0.259	0.266	0.272	0.272	0.272	0.272	0.272	0.271	0.271	0.271	0.271	0.270	0.270
Coal-to-Liquids Heat and Power	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.021	0.041	0.062	0.072	0.081	0.091	0.109
Net Coal Coke Imports	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Coal Subtotal	0.248	0.247	0.259	0.266	0.272	0.272	0.272	0.272	0.292	0.313	0.333	0.342	0.352	0.361	0.379
Renewable Energy 13/	0.105	0.109	0.109	0.113	0.114	0.115	0.116	0.117	0.117	0.118	0.119	0.119	0.120	0.121	0.122
Liquid Hydrogen	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Electricity	0.891	0.899	0.938	0.947	0.967	0.986	1.002	1.019	1.035	1.053	1.066	1.080	1.094	1.108	1.120
Delivered Energy	5.242	5.300	5.355	5.410	5.527	5.612	5.692	5.773	5.871	5.966	6.033	6.083	6.139	6.193	6.253
Electricity Related Losses	2.295	2.298	2.376	2.402	2.472	2.512	2.536	2.550	2.542	2.555	2.552	2.547	2.548	2.539	2.523
Total	7.537	7.598	7.731	7.812	7.999	8.124	8.228	8.322	8.413	8.521	8.585	8.630	8.687	8.733	8.775
Electric Power 14/															
Distillate Fuel	0.018	0.017	0.017	0.016	0.016	0.016	0.018	0.018	0.018	0.017	0.016	0.016	0.015	0.014	0.014
Residual Fuel	0.006	0.005	0.009	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Petroleum Subtotal	0.024	0.022	0.027	0.020	0.017	0.016	0.018	0.018	0.018	0.018	0.017	0.016	0.015	0.014	0.014
Natural Gas	0.065	0.061	0.092	0.083	0.085	0.083	0.084	0.085	0.088	0.092	0.099	0.105	0.117	0.124	0.125
Steam Coal	2.480	2.461	2.523	2.544	2.631	2.688	2.724	2.749	2.754	2.780	2.785	2.787	2.790	2.793	2.789
Nuclear Power	0.460	0.474	0.465	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470
Renewable Energy/Other 15/	0.167	0.170	0.189	0.218	0.229	0.228	0.226	0.228	0.228	0.230	0.230	0.230	0.230	0.228	0.231
Electricity Imports	-0.010	0.009	0.019	0.013	0.008	0.014	0.017	0.018	0.019	0.019	0.018	0.018	0.019	0.017	0.015
Total	3.186	3.197	3.315	3.349	3.439	3.499	3.538	3.568	3.577	3.608	3.619	3.627	3.642	3.647	3.643

Table 4. Energy Consumption by Sector and Source
(quadrillion Btu, unless otherwise noted)

West North Central

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total Energy Consumption															
Distillate Fuel	0.715	0.742	0.757	0.762	0.773	0.783	0.795	0.807	0.817	0.824	0.830	0.836	0.842	0.848	0.855
Kerosene	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Jet Fuel 9/	0.135	0.139	0.139	0.142	0.146	0.149	0.153	0.157	0.162	0.164	0.166	0.168	0.169	0.171	0.173
Liquefied Petroleum Gas	0.238	0.243	0.238	0.238	0.239	0.239	0.239	0.240	0.241	0.242	0.241	0.241	0.242	0.241	0.242
Motor Gasoline 2/	1.303	1.327	1.330	1.333	1.361	1.382	1.401	1.419	1.434	1.447	1.458	1.470	1.483	1.493	1.505
Petrochemical Feedstocks	0.026	0.028	0.027	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.027	0.027	0.027
Residual Fuel	0.019	0.018	0.023	0.014	0.012	0.013	0.011	0.014	0.014	0.014	0.014	0.014	0.013	0.014	0.014
Other Petroleum 12/	0.254	0.261	0.259	0.259	0.274	0.275	0.275	0.275	0.277	0.277	0.276	0.278	0.277	0.281	0.279
Petroleum Subtotal	2.692	2.760	2.775	2.779	2.836	2.873	2.905	2.943	2.974	2.998	3.017	3.037	3.057	3.078	3.097
Natural Gas	1.268	1.242	1.246	1.265	1.299	1.328	1.364	1.396	1.429	1.465	1.484	1.496	1.520	1.533	1.542
Lease and Plant Fuel 6/	0.032	0.031	0.038	0.039	0.040	0.041	0.041	0.042	0.042	0.042	0.043	0.044	0.043	0.042	0.044
Pipeline Natural Gas	0.095	0.095	0.109	0.105	0.100	0.096	0.093	0.089	0.088	0.087	0.086	0.085	0.087	0.088	0.087
Natural Gas Subtotal	1.395	1.368	1.393	1.409	1.439	1.465	1.498	1.527	1.558	1.594	1.613	1.625	1.649	1.663	1.674
Metallurgical Coal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Other Coal	2.728	2.708	2.782	2.810	2.903	2.960	2.995	3.020	3.025	3.051	3.056	3.058	3.060	3.063	3.059
Coal-to-Liquids Heat and Power	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.021	0.041	0.062	0.072	0.081	0.091	0.109
Net Coal Coke Imports	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Coal Subtotal	2.728	2.708	2.782	2.810	2.903	2.960	2.995	3.020	3.046	3.092	3.118	3.130	3.142	3.154	3.167
Nuclear Power	0.460	0.474	0.465	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470
Renewable Energy 16/	0.272	0.279	0.298	0.331	0.343	0.343	0.342	0.345	0.346	0.348	0.349	0.350	0.350	0.349	0.352
Liquid Hydrogen	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Electricity Imports	-0.010	0.009	0.019	0.013	0.008	0.014	0.017	0.018	0.019	0.019	0.018	0.018	0.019	0.017	0.015
Total	7.537	7.598	7.731	7.812	7.999	8.124	8.228	8.322	8.413	8.521	8.585	8.630	8.687	8.733	8.775

Energy Use and Related Statistics

Delivered Energy Use	5.242	5.300	5.355	5.410	5.527	5.612	5.692	5.773	5.871	5.966	6.033	6.083	6.139	6.193	6.253
Total Energy Use	7.537	7.598	7.731	7.812	7.999	8.124	8.228	8.322	8.413	8.521	8.585	8.630	8.687	8.733	8.775
Population (millions)	19.626	19.728	19.835	19.942	20.047	20.150	20.254	20.356	20.457	20.556	20.653	20.747	20.838	20.927	21.011
US GDP (billion 2000 dollars)	10321	10756	11147	11513	11875	12288	12671	13043	13417	13793	14191	14622	15082	15575	16092
Carbon Dioxide Emissions (million metric tons)	5795	5900	5967	5978	6080	6182	6281	6365	6440	6536	6595	6654	6718	6794	6869

Table 4. Energy Consumption by Sector and Source
(quadrillion Btu, unless otherwise noted)

West North Central	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2004-2030
Energy Consumption														
Residential														
Distillate Fuel	0.020	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.018	-0.8%
Kerosene	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	2.0%
Liquefied Petroleum Gas	0.108	0.108	0.108	0.107	0.107	0.107	0.108	0.107	0.107	0.107	0.107	0.107	0.107	0.0%
Petroleum Subtotal	0.129	0.129	0.129	0.129	0.129	0.129	0.129	0.128	0.129	0.128	0.128	0.128	0.128	-0.1%
Natural Gas	0.491	0.491	0.492	0.491	0.490	0.490	0.490	0.488	0.487	0.486	0.486	0.483	0.482	0.2%
Coal	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	-0.3%
Renewable Energy 1/	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.4%
Electricity	0.407	0.412	0.418	0.421	0.426	0.430	0.435	0.438	0.442	0.447	0.452	0.455	0.460	1.4%
Delivered Energy	1.056	1.060	1.068	1.069	1.072	1.076	1.082	1.082	1.085	1.088	1.094	1.094	1.096	0.6%
Electricity Related Losses	0.904	0.903	0.911	0.914	0.921	0.932	0.948	0.947	0.951	0.969	0.988	1.004	1.019	0.8%
Total	1.960	1.963	1.979	1.983	1.993	2.008	2.029	2.028	2.036	2.057	2.082	2.098	2.115	0.7%
Commercial														
Distillate Fuel	0.030	0.030	0.030	0.030	0.030	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.3%
Residual Fuel	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002	-2.1%
Kerosene	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.3%
Liquefied Petroleum Gas	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.015	0.016	0.016	0.1%
Motor Gasoline 2/	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.2%
Petroleum Subtotal	0.057	0.057	0.057	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.059	0.059	0.1%
Natural Gas	0.334	0.336	0.339	0.342	0.345	0.348	0.351	0.354	0.357	0.359	0.362	0.366	0.368	1.0%
Coal	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	N/A
Renewable Energy 3/	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.0%
Electricity	0.411	0.419	0.426	0.434	0.442	0.450	0.457	0.465	0.474	0.482	0.491	0.500	0.509	2.0%
Delivered Energy	0.819	0.829	0.839	0.850	0.862	0.873	0.884	0.894	0.906	0.917	0.929	0.941	0.953	1.4%
Electricity Related Losses	0.913	0.916	0.928	0.941	0.956	0.975	0.997	1.006	1.018	1.045	1.073	1.103	1.128	1.5%
Total	1.732	1.745	1.768	1.791	1.817	1.848	1.880	1.900	1.924	1.962	2.001	2.044	2.081	1.4%
Industrial 4/														
Distillate Fuel	0.155	0.155	0.154	0.153	0.152	0.151	0.151	0.151	0.152	0.152	0.152	0.153	0.153	-0.2%
Liquefied Petroleum Gas	0.112	0.111	0.111	0.110	0.110	0.110	0.110	0.110	0.110	0.110	0.109	0.109	0.109	-0.3%
Petrochemical Feedstocks	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.026	0.026	0.026	-0.3%
Residual Fuel	0.009	0.010	0.009	0.010	0.010	0.010	0.010	0.010	0.010	0.009	0.009	0.010	0.010	1.0%
Motor Gasoline 2/	0.040	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.040	0.040	0.040	0.040	0.040	-0.2%
Other Petroleum 5/	0.268	0.270	0.272	0.271	0.274	0.271	0.275	0.277	0.281	0.283	0.284	0.288	0.293	0.6%
Petroleum Subtotal	0.612	0.613	0.612	0.611	0.613	0.609	0.613	0.614	0.618	0.620	0.620	0.626	0.631	0.1%
Natural Gas	0.590	0.590	0.590	0.592	0.594	0.598	0.599	0.603	0.606	0.608	0.609	0.610	0.610	1.3%
Lease and Plant Fuel 6/	0.045	0.046	0.047	0.047	0.048	0.048	0.048	0.048	0.049	0.049	0.049	0.050	0.050	1.9%
Natural Gas Subtotal	0.635	0.636	0.636	0.639	0.641	0.645	0.647	0.652	0.655	0.657	0.659	0.660	0.660	1.4%
Metallurgical Coal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	N/A
Other Industrial Coal	0.256	0.256	0.255	0.255	0.255	0.255	0.255	0.255	0.255	0.256	0.256	0.256	0.256	0.4%
Coal-to-Liquids Heat and Power	0.126	0.143	0.168	0.191	0.219	0.234	0.246	0.264	0.284	0.297	0.318	0.325	0.326	42.3%
Net Coal Coke Imports	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	N/A
Coal Subtotal	0.382	0.399	0.424	0.447	0.474	0.489	0.501	0.519	0.539	0.552	0.574	0.581	0.582	3.6%
Renewable Energy 7/	0.092	0.092	0.093	0.093	0.094	0.095	0.095	0.096	0.096	0.097	0.098	0.098	0.099	0.8%
Electricity	0.309	0.310	0.310	0.310	0.310	0.310	0.311	0.311	0.312	0.314	0.314	0.315	0.316	0.6%
Delivered Energy	2.030	2.050	2.075	2.100	2.133	2.148	2.167	2.192	2.221	2.240	2.265	2.281	2.289	1.2%
Electricity Related Losses	0.687	0.678	0.675	0.672	0.671	0.673	0.677	0.673	0.671	0.680	0.687	0.696	0.700	0.0%
Total	2.717	2.729	2.750	2.773	2.803	2.821	2.845	2.864	2.892	2.919	2.952	2.977	2.989	0.9%

Table 4. Energy Consumption by Sector and Source
(quadrillion Btu, unless otherwise noted)

West North Central	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2004-2030
Transportation														
Distillate Fuel 8/	0.644	0.651	0.659	0.667	0.676	0.686	0.696	0.706	0.717	0.729	0.740	0.752	0.765	1.6%
Jet Fuel 9/	0.175	0.176	0.176	0.176	0.176	0.176	0.176	0.175	0.175	0.176	0.176	0.177	0.178	1.0%
Motor Gasoline 2/	1.468	1.478	1.487	1.496	1.504	1.512	1.519	1.527	1.536	1.544	1.552	1.560	1.568	0.8%
Residual Fuel	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	-0.3%
Liquefied Petroleum Gas	0.006	0.006	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.008	0.008	4.3%
Other Petroleum 10/	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	-0.1%
Petroleum Subtotal	2.307	2.325	2.342	2.359	2.376	2.394	2.412	2.430	2.449	2.470	2.490	2.511	2.532	1.0%
Pipeline Fuel Natural Gas	0.088	0.087	0.088	0.089	0.090	0.090	0.091	0.092	0.093	0.094	0.094	0.094	0.095	0.0%
Compressed Natural Gas	0.007	0.008	0.008	0.008	0.008	0.008	0.009	0.009	0.009	0.009	0.009	0.009	0.010	6.5%
Renewable Energy (E85) 11/	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.0%
Liquid Hydrogen	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	N/A
Electricity	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.5%
Delivered Energy	2.409	2.427	2.445	2.463	2.481	2.499	2.518	2.537	2.558	2.579	2.600	2.622	2.643	1.0%
Electricity Related Losses	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	-0.1%
Total	2.422	2.441	2.459	2.477	2.495	2.513	2.532	2.551	2.571	2.593	2.614	2.636	2.657	1.0%
Delivered Energy Consumption, All Sectors														
Distillate Fuel	0.849	0.855	0.862	0.870	0.878	0.886	0.896	0.906	0.918	0.930	0.942	0.955	0.968	1.1%
Kerosene	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	1.4%
Jet Fuel 9/	0.175	0.176	0.176	0.176	0.176	0.176	0.176	0.175	0.175	0.176	0.176	0.177	0.178	1.0%
Liquefied Petroleum Gas	0.241	0.241	0.241	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.239	0.239	-0.1%
Motor Gasoline 2/	1.516	1.526	1.535	1.544	1.551	1.560	1.567	1.575	1.584	1.593	1.601	1.609	1.616	0.8%
Petrochemical Feedstocks	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.026	0.026	0.026	-0.3%
Residual Fuel	0.013	0.014	0.013	0.013	0.014	0.014	0.014	0.013	0.013	0.013	0.013	0.014	0.014	0.1%
Other Petroleum 12/	0.280	0.282	0.284	0.284	0.287	0.283	0.287	0.290	0.293	0.295	0.296	0.300	0.305	0.6%
Petroleum Subtotal	3.105	3.125	3.141	3.157	3.176	3.189	3.211	3.230	3.254	3.276	3.296	3.323	3.350	0.8%
Natural Gas	1.422	1.424	1.429	1.433	1.438	1.444	1.449	1.453	1.458	1.462	1.467	1.468	1.470	0.8%
Lease and Plant Fuel 6/	0.045	0.046	0.047	0.047	0.048	0.048	0.048	0.049	0.049	0.049	0.049	0.050	0.050	1.9%
Pipeline Natural Gas	0.088	0.087	0.088	0.089	0.090	0.090	0.091	0.092	0.093	0.094	0.094	0.094	0.095	0.0%
Natural Gas Subtotal	1.556	1.558	1.563	1.569	1.575	1.582	1.588	1.594	1.600	1.605	1.610	1.613	1.615	0.8%
Metallurgical Coal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	N/A
Other Coal	0.270	0.270	0.269	0.269	0.269	0.269	0.269	0.269	0.269	0.270	0.270	0.270	0.270	0.3%
Coal-to-Liquids Heat and Power	0.126	0.143	0.168	0.191	0.219	0.234	0.246	0.264	0.284	0.297	0.318	0.325	0.326	42.3%
Net Coal Coke Imports	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	N/A
Coal Subtotal	0.396	0.413	0.438	0.460	0.488	0.503	0.515	0.533	0.553	0.566	0.588	0.595	0.596	3.4%
Renewable Energy 13/	0.123	0.123	0.124	0.125	0.125	0.126	0.126	0.127	0.127	0.128	0.129	0.129	0.130	0.7%
Liquid Hydrogen	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	N/A
Electricity	1.134	1.147	1.161	1.172	1.183	1.196	1.210	1.221	1.235	1.249	1.264	1.277	1.291	1.4%
Delivered Energy	6.313	6.366	6.427	6.483	6.547	6.596	6.651	6.705	6.769	6.824	6.888	6.937	6.981	1.1%
Electricity Related Losses	2.518	2.511	2.528	2.541	2.561	2.594	2.635	2.639	2.654	2.707	2.762	2.817	2.861	0.8%
Total	8.831	8.877	8.955	9.023	9.108	9.190	9.286	9.344	9.423	9.531	9.650	9.754	9.841	1.0%
Electric Power 14/														
Distillate Fuel	0.013	0.014	0.011	0.011	0.011	0.014	0.016	0.016	0.016	0.016	0.017	0.017	0.017	-0.1%
Residual Fuel	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-12.3%
Petroleum Subtotal	0.013	0.014	0.011	0.012	0.011	0.014	0.016	0.016	0.016	0.016	0.017	0.017	0.017	-1.0%
Natural Gas	0.128	0.128	0.133	0.133	0.132	0.131	0.132	0.130	0.132	0.131	0.129	0.127	0.124	2.8%
Steam Coal	2.795	2.802	2.830	2.853	2.884	2.929	2.982	2.994	3.023	3.091	3.162	3.235	3.296	1.1%
Nuclear Power	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.0%
Renewable Energy/Other 15/	0.230	0.233	0.233	0.233	0.235	0.232	0.234	0.237	0.236	0.236	0.236	0.233	0.234	1.2%
Electricity Imports	0.015	0.011	0.012	0.012	0.012	0.014	0.011	0.012	0.012	0.012	0.012	0.011	0.012	0.9%
Total	3.652	3.658	3.689	3.712	3.744	3.790	3.845	3.860	3.889	3.956	4.026	4.094	4.152	1.0%

Table 4. Energy Consumption by Sector and Source
(quadrillion Btu, unless otherwise noted)

West North Central	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2004-2030
Total Energy Consumption														
Distillate Fuel	0.862	0.869	0.873	0.881	0.889	0.900	0.912	0.922	0.934	0.947	0.959	0.972	0.984	1.1%
Kerosene	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	1.4%
Jet Fuel 9/	0.175	0.176	0.176	0.176	0.176	0.176	0.176	0.175	0.175	0.176	0.176	0.177	0.178	1.0%
Liquefied Petroleum Gas	0.241	0.241	0.241	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.239	0.239	0.239	-0.1%
Motor Gasoline 2/	1.516	1.526	1.535	1.544	1.551	1.560	1.567	1.575	1.584	1.593	1.601	1.609	1.616	0.8%
Petrochemical Feedstocks	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.026	0.026	0.026	-0.3%
Residual Fuel	0.013	0.014	0.013	0.014	0.014	0.014	0.014	0.013	0.013	0.013	0.013	0.014	0.014	-1.0%
Other Petroleum 12/	0.280	0.282	0.284	0.284	0.287	0.283	0.287	0.290	0.293	0.295	0.296	0.300	0.305	0.6%
Petroleum Subtotal	3.118	3.139	3.152	3.168	3.188	3.203	3.227	3.246	3.270	3.293	3.313	3.340	3.367	0.8%
Natural Gas	1.551	1.552	1.561	1.566	1.569	1.575	1.581	1.584	1.591	1.593	1.597	1.596	1.594	1.0%
Lease and Plant Fuel 6/	0.045	0.046	0.047	0.047	0.048	0.048	0.048	0.049	0.049	0.049	0.049	0.050	0.050	1.9%
Pipeline Natural Gas	0.088	0.087	0.088	0.089	0.090	0.090	0.091	0.092	0.093	0.094	0.094	0.094	0.095	0.0%
Natural Gas Subtotal	1.684	1.686	1.696	1.702	1.707	1.713	1.720	1.724	1.732	1.736	1.740	1.740	1.739	0.9%
Metallurgical Coal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	N/A
Other Coal	3.065	3.072	3.100	3.122	3.153	3.198	3.251	3.263	3.292	3.361	3.432	3.505	3.566	1.1%
Coal-to-Liquids Heat and Power	0.126	0.143	0.168	0.191	0.219	0.234	0.246	0.264	0.284	0.297	0.318	0.325	0.326	42.3%
Net Coal Coke Imports	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	N/A
Coal Subtotal	3.191	3.216	3.268	3.314	3.372	3.432	3.497	3.527	3.576	3.657	3.750	3.830	3.891	1.4%
Nuclear Power	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.0%
Renewable Energy 16/	0.353	0.356	0.357	0.357	0.360	0.358	0.360	0.364	0.363	0.364	0.364	0.362	0.363	1.0%
Liquid Hydrogen	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	N/A
Electricity Imports	0.015	0.011	0.012	0.012	0.012	0.014	0.011	0.012	0.012	0.012	0.012	0.011	0.012	0.9%
Total	8.831	8.877	8.955	9.023	9.108	9.190	9.286	9.344	9.423	9.531	9.650	9.754	9.841	1.0%
Energy Use and Related Statistics														
Delivered Energy Use	6.313	6.366	6.427	6.483	6.547	6.596	6.651	6.705	6.769	6.824	6.888	6.937	6.981	1.1%
Total Energy Use	8.831	8.877	8.955	9.023	9.108	9.190	9.286	9.344	9.423	9.531	9.650	9.754	9.841	1.0%
Population (millions)	21.092	21.169	21.242	21.312	21.379	21.442	21.504	21.563	21.621	21.677	21.734	21.790	21.845	0.4%
US GDP (billion 2000 dollars)	16599	17064	17541	18021	18515	19026	19562	20123	20701	21286	21871	22482	23112	3.0%
Carbon Dioxide Emissions (million metric tons)	6952	7030	7119	7206	7296	7387	7494	7587	7690	7799	7912	8019	8114	1.2%

Table 4. Energy Consumption by Sector and Source

(quadrillion Btu, unless otherwise noted)

West North Central

1/ Includes wood used for residential heating. See Annual Energy Outlook 2006 Appendix A Table 4 and/or Table 17 for estimates of nonmarketed renewable energy consumption for geothermal heat pumps, solar thermal hot water heating, and solar photovoltaic electricity generation.

2/ Includes ethanol (blends of 10 percent or less) and ethers blended into gasoline.

3/ Includes commercial sector consumption of wood and wood waste, landfill gas, municipal solid waste, and other biomass for combined heat and power. See Annual Energy Outlook 2006 Appendix A Table 17 for estimates of nonmarketed renewable energy consumption for solar thermal hot water heating and solar photovoltaic electricity generation.

4/ Includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.

5/ Includes petroleum coke, asphalt, road oil, lubricants, still gas, and miscellaneous petroleum products.

6/ Represents natural gas used in the field gathering and processing plant machinery.

7/ Includes consumption of energy from hydroelectric, wood and wood waste, municipal solid waste, and other biomass.

8/ Diesel fuel for on- and off-road use.

9/ Includes only kerosene type.

10/ Includes aviation gasoline and lubricants.

11/ E85 refers to a blend of 85 percent ethanol (renewable) and 15 percent motor gasoline (nonrenewable). To address cold starting issues, the percentage of ethanol actually varies seasonally. The annual average ethanol content of 74 percent is used for this forecast.

12/ Includes unfinished oils, natural gasoline, motor gasoline blending components, aviation gasoline, lubricants, still gas, asphalt, road oil, petroleum coke, and miscellaneous petroleum products.

13/ Includes electricity generated for sale to the grid and for own use from renewable sources, and non-electric energy from renewable sources. Excludes nonmarketed renewable energy consumption for geothermal heat pumps, buildings photovoltaic systems, and solar thermal hot water heaters.

14/ Includes consumption of energy by electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat to the public. Includes small power producers and exempt wholesale generators.

15/ Includes conventional hydroelectric, geothermal, wood and wood waste, municipal solid waste, other biomass, petroleum coke, wind, photovoltaic and solar thermal sources. Excludes net electricity imports.

16/ Includes hydroelectric, geothermal, wood and wood waste, municipal solid waste, other biomass, wind, photovoltaic and solar thermal sources. Includes ethanol components of E85; excludes ethanol blends (10 percent or less) in motor gasoline. Excludes net electricity imports and nonmarketed renewable energy consumption for geothermal heat pumps, buildings photovoltaic systems, and solar thermal hot water heaters.

Btu = British thermal unit.

N/A = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2003 and 2004 are model results and may differ slightly from official EIA data reports. Consumption values of 0.00 are values that round to 0.00, because they are less than 0.005.

Sources: 2003 and 2004 consumption based on: Energy Information Administration (EIA), Annual Energy Review 2004, DOE/EIA-0384(2004) (Washington, DC, August 2005). 2003 and 2004 population and gross domestic product: Global Insight macroeconomic model CTL0805. 2003 and 2004 carbon dioxide emissions: EIA, Emissions of Greenhouse Gases in the United States 2004, DOE/EIA-0573(2004) (Washington, DC, December 2005). Projections: EIA, AEO2006 National Energy Modeling System run aeo2006.d111905a.